American Geophysical Union (AGU) Fall Meeting Abstract

TITLE: Inspiring the Next Generation of Explorers: Scientist Involvement in the Expedition Earth and Beyond Program

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Scientists, science experts, graduate and even undergraduate student researchers have a unique ability to inspire the next generation of explorers. These science, technology, engineering, and mathematics (STEM) experts can serve as role models for students and can help inspire them to consider future STEM-related careers. They have an exceptional ability to instill a sense of curiosity and fascination in the minds of students as they bring science to life in the classroom. Students and teachers are hungry for opportunities to interact with scientists. They feel honored when these experts take time out of their busy day to share their science, their expertise, and their stories. The key for teachers is to be cognizant of opportunities to connect their students with scientists. For scientists, the key is to know how to get involved, to have options for participation that involve different levels of commitment, and to work with educational specialists who can help facilitate their involvement.

The Expedition Earth and Beyond (EEAB) Program, facilitated by the Astromaterials Research and Exploration Science (ARES) Directorate at the NASA Johnson Space Center, is an Earth and planetary science education program designed to inspire, engage, and educate teachers and students by getting them actively involved with NASA exploration, discovery, and the process of science. One of the main goals of the program is to facilitate student research in the classroom. The program uses astronaut photographs, provided through the ARES Crew Earth Observations (CEO) payload on the International Space Station (ISS) as the hook to help students gain an interest in a research topic. Student investigations can focus on Earth or involve comparative planetology. Student teams are encouraged to use additional imagery and data from Earth or planetary orbital spacecraft, or ground-based data collection tools, to augment the astronaut photography dataset. A second goal of the program is to provide opportunities for meaningful connections between scientists and classrooms. To do this, EEAB offers multiple opportunities for scientist involvement. One opportunity involves having scientists work as mentors for student teams conducting research. These student teams, ranging from grades 4 through 12, are able to obtain guidance, suggestions, and input from STEM experts as they conduct a research investigation. Another opportunity for scientist involvement is participation in Classroom Connection Distance Learning (DL) events. These DL events entail interactive and engaging presentations that enable STEM experts to share their expertise with students and teachers (grades 3 through 12) from all across the nation. A third opportunity for scientist involvement involves participation in virtual student team science presentations. Student teams have the opportunity to share their research and results by presenting it to science experts through the use of WebEx, an easy-to-use online conferencing tool.

The impact STEM experts have on students in today's classrooms is powerful. They serve as role models to these students, and they open students' eyes to a potential career path they may

not have known existed otherwise. The more scientists and STEM experts we can connect with students, the greater the impact we can make as we strive to inspire and prepare our nation's next generation of explorers.